IN THE CLAIMS

1. (Original) A video converter system for cost-effective motion compensated field rate up-conversion of film material to high definition video comprising:

a standard definition motion estimator generating motion vectors for motion compensated field rate up-conversion of standard definition size fields;

a scaling unit scaling the motion vectors for use in high definition field rate up-conversion; and

a field rate converter employing the scaled motion vectors for motion compensated field rate up-conversion of high definition size fields.

2. (Original) The video converter system as set forth in Claim 1 further comprising:

a down-sampling unit down-sampling received high definition size fields to the standard definition size fields on which the standard definition motion estimator generates motion vectors.

3. (Original) The video converter system as set forth in Claim 2 wherein the scaling unit post-processes the scaled motion vectors for motion smoothness within the field-rate up-converted high definition size fields.

4. (Original) The video converter system as set forth in Claim 2 wherein the field rate converter employs averaging for motion compensation of an intermediate field if a motion compensated pixel value from a previous frame is within a threshold difference from a motion compensated pixel value from a subsequent field.

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5. (Original) The video converter system as set forth in Claim 2 wherein the field rate converter, in performing motion compensation for an intermediate field, selects one of a motion compensated pixel value from a previous frame and a motion compensated pixel value from a subsequent field for a motion compensated pixel value in the intermediate field.

6. (Original) The video converter system as set forth in Claim 5 wherein the field rate converter selects the motion compensated pixel value from the previous frame for the motion compensated pixel value in the intermediate field if a difference between the motion compensated pixel value from the previous frame and a preliminary motion compensated pixel value in the intermediate field is less than a threshold amount.

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7. (Original) The video converter system as set forth in Claim 6 wherein, if the difference between the motion compensated pixel value from the previous frame and the preliminary motion compensated pixel value in the intermediate field is not less than the threshold amount, the field rate converter selects the motion compensated pixel value from the subsequent field for the motion compensated pixel value in the intermediate field if a difference between the motion compensated pixel value from the subsequent field and the preliminary motion compensated pixel value in the intermediate field is less than the threshold amount.

8. (Original) A video receiver comprising:

an input for receiving video signals; and

a video converter system for cost-effective motion compensated field rate up-conversion of film material to high definition video comprising:

a standard definition motion estimator generating motion vectors for motion compensated field rate up-conversion of standard definition size fields;

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a scaling unit scaling the motion vectors for use in high definition field rate up-conversion; and

a field rate converter employing the scaled motion vectors for motion compensated field rate up-conversion of high definition size fields.

9. (Original) The video receiver as set forth in Claim 8 wherein the video converter system further comprises:

a down-sampling unit down-sampling received high definition size fields to the standard definition size fields on which the standard definition motion estimator generates motion vectors.

10. (Original) The video receiver as set forth in Claim 9 wherein the scaling unit post-processes the scaled motion vectors for motion smoothness within the field-rate up-converted high definition size fields.

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11. (Original) The video receiver as set forth in Claim 9 wherein the field rate converter employs averaging for motion compensation for an intermediate field if a motion compensated pixel value from a previous frame is within a threshold difference from a motion compensated pixel value from a subsequent field.

12. (Original) The video receiver as set forth in Claim 9 wherein the field rate converter, in performing motion compensation for an intermediate field, selects one of a motion compensated pixel value from a previous frame and a motion compensated pixel value from a subsequent field for a motion compensated pixel value in the intermediate field.

13. (Original) The video receiver as set forth in Claim 12 wherein the field rate converter selects the motion compensated pixel value from the previous frame for the motion compensated pixel value in the intermediate field if a difference between the motion compensated pixel value from the previous frame and a preliminary motion compensated pixel value in the intermediate field is less than a threshold amount.

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14. (Original) The video receiver as set forth in Claim 13 wherein, if the difference between the motion compensated pixel value from the previous frame and the preliminary motion compensated pixel value in the intermediate field is not less than the threshold amount, the field rate converter selects the motion compensated pixel value from the subsequent field for the motion compensated pixel value in the intermediate field if a difference between the motion compensated pixel value from the subsequent field and the preliminary motion compensated pixel value in the intermediate field is less than the threshold amount.

15. (Original) A method of cost-effective motion compensated field rate up-conversion of film material to high definition video comprising:

generating motion vectors for motion compensated field rate up-conversion of standard definition size fields;

scaling the motion vectors for use in high definition field rate up-conversion; and

employing the scaled motion vectors for motion compensated field rate up-conversion of high definition size fields.

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16. (Original) The method as set forth in Claim 15 further comprising:

down-sampling received high definition size fields to the standard definition size fields employed in generating the motion vectors.

17. (Original) The method as set forth in Claim 16 further comprising:

post-processing the scaled motion vectors for motion smoothness within the field-rate up-converted high definition size fields.

18. (Original) The method as set forth in Claim 16 further comprising:

employing averaging for motion compensation for an intermediate field if a motion compensated pixel value from a previous frame is within a threshold difference from a motion compensated pixel value from a subsequent field.

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19. (Original) The method as set forth in Claim 17 further comprising:

in performing motion compensation for an intermediate field, selecting one of a motion compensated pixel value from a previous frame and a motion compensated pixel value from a subsequent field for a motion compensated pixel value in the intermediate field.

20. (Original) he method as set forth in Claim 19 further comprising:

selecting the motion compensated pixel value from the previous frame for the motion compensated pixel value in the intermediate field if a difference between the motion compensated pixel value from the previous frame and a preliminary motion compensated pixel value in the intermediate field is less than a threshold amount; and

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if the difference between the motion compensated pixel value from the previous frame and the preliminary motion compensated pixel value in the intermediate field is not less than the threshold amount, selecting the motion compensated pixel value from the subsequent field for the motion compensated pixel value in the intermediate field if a difference between the motion compensated pixel value from the subsequent field and the preliminary motion compensated pixel value in the intermediate field is less than the threshold amount.